

WHAT IS CLAIMED IS:

1. A method for detecting color misregistration in an image forming system comprising:
  - forming a registration patch with the image forming system;
  - performing spectrophotometric analysis on the registration patch;
  - determining if color misregistration has occurred based on the spectrophotometric analysis of the registration patch.
2. The method for detecting color misregistration according to claim 1, the step of forming a patch pattern further comprising the steps of:
  - calculating or selecting a combined color value for the registration patch;
  - forming the registration patch in a combination of colors having a composite color value equivalent to the calculated or selected value.
3. The method for detecting color misregistration according to claim 1, further comprising generating an output signal in response to the step of determining.
4. The method for detecting color misregistration according to claim 3, wherein the signal indicates whether the image forming system is performing within satisfactory limits.
5. The method for detecting color misregistration according to claim 1, the step of performing spectrophotometric analysis further comprising scanning the registration patch with a spectrophotometric device; and
  - obtaining a degree of color misregistration based on known dimensions of the registration patch and an amount of color shift between the color detected by the spectrophotometric device and the calculated or selected color value.
6. The method for detecting color misregistration according to claim 1, wherein the step of forming a registration patch comprises forming a registration patch which has at least two superimposed colors formed in a line whose direction is perpendicular to the direction of color misregistration.
7. The method for detecting color misregistration according to claim 1, further comprising performing an adjustment operation if it is determined that an unacceptable level of color misregistration has occurred.
8. An image forming system capable of detecting and adjusting for color misregistration comprising:

a plurality of image forming stations, each image forming station forming an image in one color;

a charge retentive surface which receives each image from its corresponding image forming station and transfers the combined image to a recording medium;

a spectrophotometric device either attached to or integral to the image forming device; and

and a controller that causes the spectrophotometric device to perform detection of color misregistration on at least one registration patch.

9. The system of claim 8, wherein the controller further implements an adjustment to reduce detected misregistration.

10. The system of claim 9, wherein the image forming system is a digital photocopier.

11. The system of claim 9, wherein the image forming system is an ink jet printer.

12. The system of claim 9, wherein the image forming system is a laser printer.

13. The system of claim 9, wherein the image forming system is one of a facsimile machine and a combination facsimile machine and printer machine.

14. The image forming system according to claim 9, the registration patch further comprising a registration patch formed in a combination of colors having a composite color value equivalent to a precalculated or preselected combined color value.

15. The image forming system according to claim 9, wherein the controller further implements an output signal which indicates the results of the spectrophotometric analysis.

16. The image forming system according to claim 15, wherein the output signal indicates whether the image forming system is performing within satisfactory limits.

17. The image forming system according to claim 9, wherein detection of color misregistration comprises:

scanning the registration patch with the spectrophotometric device; and

obtaining a degree of color misregistration based on known dimensions of the registration patch and an amount of color shift between the color detected by the spectrophotometric device and the calculated or selected color value.

18. The image forming system according to claim 9, wherein the registration patch comprises at least two superimposed colors formed in a line whose direction is perpendicular to the direction of color misregistration.

19. The image forming system according to claim 9, the adjustment comprising an alteration to the image forming process of at least one image forming station if the spectrophotometric analysis indicates color misregistration has occurred.

20. An apparatus comprising:  
means for forming images;  
means for creating at least one registration patch;  
means for performing spectrophotometric analysis on the at least one registration patch to determine if color misregistration is occurring on images formed by the image forming means;  
means for determining if color misregistration has occurred based on the spectrophotometric analysis of the registration patch;  
means for adjusting the image forming process to adjust for the color misregistration.